

2 SEMI-ANNUAL MONITORING REPORT

In accordance with RLI Title V Permit Standard Conditions I.F and 19867, Part 32; BAAQMD Regulation 8-34-411; and 40 CFR §60.757(f) of the NSPS for landfills, this report is a Title V Combined Semi-Annual Report and Partial 8-34 Annual Report that is required to be submitted by RLI. This Report contains monitoring data for the operation of the gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this Report is November 1, 2016 to April 30, 2017. The following table lists the rules and regulations that are required to be included in this Combined Report:

Table 2-1 Semi-Annual Report Requirements

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.1, §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices B & D
8-34-501.2, §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix B
8-34-501.3, 8-34-507, §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3, Appendices E & F
8-34-501.4, 8-34-505, 8-34-510	Testing performed to satisfy any of the requirements of this rule.	Sections 2.4 & 2.10, Appendices G & I
8-34-501.5	Monthly landfill gas (LFG) flow rates and well concentration readings for facilities subject to 8-34-404.	Sections 2.5 & 2.11, Appendix K
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million by volume (ppm _v), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppm _v .	Sections 2.6 & 2.7, Appendix H
8-34-501.7	Annual waste acceptance rate and current amount of waste in-place.	Section 2.8
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the GCCS Design Plan.	Section 2.9
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.10, Appendices I & J
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.11, Appendix K

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records or key emission control system operating parameters.	Section 2.2.2
8-34-501.12	The records required above shall be made available and retained for a period of five years.	Section 1.2
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.12
§60.10 (d)(5)(i)	Start-up, Shutdown, Malfunction Events	Section 4, Appendices B, D, and E

2.1 COLLECTION SYSTEM OPERATION [BAAQMD 8-34-501.1& §60.757(f)(4)]

Appendix A contains a map of the GCCS at RLI. Section 2.1.1 includes all collection system downtimes. The information contained in Appendix B, A-51 and A-60 Flares SSM Logs, GCCS Downtime Summary, S-64 and S-65 Landfill Gas Engine SSM logs, and S-71 Gas Treatment System Downtime Log, includes the individual well shutdown times and the reason for each shutdown.

2.1.1 FLARE SYSTEM DOWNTIME

The A-51 Flare commenced operation in June 2005, and the A-60 Flare commenced operation on April 1, 2009. Table 2-2 summarizes the A-51 and A-60 Flares' downtimes for the reporting period.

Table 2-2 A-51 and A-60 Downtimes

Month	A-51 Downtime (Hours)	A-60 Downtime (Hours)
Nov-16	201.53	126.27
Dec-16	204.07	118.63
Jan-17	31.10	185.07
Feb-17	18.90	46.50
Mar-17	16.03	185.53
Apr-17	87.67	1.67
Total Hours:	559.30	663.67

During the period covered in this report, the GCCS was not shut down for more than five days on any one occasion. Appendix B contains the A-51 and A-60 Flare SSM

logs, and GCCS Downtime Summary which lists dates, times, and lengths of shutdowns for the reporting period and year-to-date.

2.1.2 LANDFILL GAS ENGINE SYSTEM DOWNTIME

The S-64 and S-65 Landfill Gas Engines (with accompanying S-71 Landfill Gas Treatment System) commenced operation in April 27, 2017. Table 2-3 summarizes the S-64 and S-65 Engines' downtimes for the reporting period.

Table 2-3 S-64 and S-65 Downtimes

Month	S-64 Downtime (Hours)	S-65 Downtime (Hours)
Nov-16	Not started yet	Not started yet
Dec-16	Not started yet	Not started yet
Jan-17	Not started yet	Not started yet
Feb-17	Not started yet	Not started yet
Mar-17	Not started yet	Not started yet
Apr-17	50.25	47.67
Total Hours:	50.25	47.67

During the period covered in this report, the S-71 treatment system was not shut down for more than one hour during commissioning. Appendix B contains the S-64 and S-65 Engine SSM logs, and S-71 Downtime Log which lists dates, times, and lengths of shutdowns for the reporting period.

2.1.3 WELL DISCONNECTION LOG

A Wellfield SSM Log that lists dates, times, and lengths of disconnections for the reporting period is included in Appendix D. In addition, 4 wells (out of a possible 5) remain disconnected at the end of the reporting period, pursuant to BAAQMD Regulation 8-32-116.2 (Limited Exemption, Well Raising).

2.2 EMISSION CONTROL DEVICE DOWNTIME [BAAQMD 8-34-501.2 & §60.757(f)(3)]

No bypassing of the control system or emissions of raw LFG occurred. The Flare SSM Logs that include all downtimes and reasons for each shutdown for the A-51 and A-60 Flares are contained in Appendix B. Device downtime is summarized in Table 2-3.

Table 2-3 GCCS Downtime Summary

Total 2016 Downtime:	35.97
November 1, 2016 through April 30, 2017 Downtime:	43.70
January 1, 2017 through April 30, 2017 Total Downtime:	43.57
Total 2017 Downtime:	43.57

2.2.1 LFG BYPASS OPERATIONS (§60.757(f)(2))

Title 40 CFR §60.757(f)(2) is not applicable at RLI because no bypass line is installed. LFG cannot be diverted around the control equipment.

2.2.2 KEY EMISSION CONTROL OPERATING PARAMETERS (BAAQMD 8-34-501.11 & 8-34-509)

The A-51 and A-60 Flares are subject to continuous temperature monitoring as required in BAAQMD Regulation 8-34-507 and 40 CFR §60.757(f)(1).

2.3 TEMPERATURE MONITORING RESULTS [(BAAQMD 8-34-501.3, 8-34-507, & §60.757(f)(1))]

The RLI has two flares used to destroy LFG collected by the GCCS (A-51 and A-60). Combustion zone temperatures of the flares are monitored with thermocouples and recorded with Yokogawa DX100 paperless chart recorders. There were no continuous recorder device SSM events during the reporting period. As shown in Appendix F, there were no periods of missing temperature data for the flares during the reporting period.

Title V Permit Condition Number 19867 Part 22 states that the minimum combustion zone temperature shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50°F, provided that the minimum combustion zone temperature is not less than 1,400°F. Pursuant to Part 22, the following temperature limits applied during the reporting period:

Table 2-4 Applicable Temperature Limits

Device	Test Date	Report Submitted	Average Temperature During Test (°F)	3-hr Minimum Temperature (°F)
A-51	2/18/2016	4/14/2016	1,460	1,410
A-51	2/8/2017	4/4/2017	1,439	1,400
A-60 Zone A	2/18/2016	4/14/2016	1,584	1,534
A-60 Zone A	2/8/2017	4/4/2017	1,609	1,559
A-60 Zone B	2/19/2015	4/10/2015	1,538	1,488

The three-hour minimum temperature applies upon submittal of the source test report. Operating records for the flares indicate all flares operated in compliance with the applicable three-hour average minimum temperatures from November 1, 2016 to April 30, 2017.

Pursuant to Title V Permit Condition Number 19867, Part 30g, the annual source test at A-60 may be conducted while A-60 is operating in either zone, provided that each operating zone is tested at least once every five years. The most recent source test for Zone A was completed in 2016. Zone B was tested in 2015, meeting the obligation to test each zone every five years.

2.4 MONTHLY COVER INTEGRITY MONITORING [BAAQMD 8-34-501.3, 8-34-507, & §60.757(f)(1)]

The Monthly Cover Integrity Monitoring Reports are included in Appendix G. The cover integrity monitoring was performed on the following dates:

- November 1, 2, 3, 4, 7, and 16, 2016
- December 2, 5, 6, 7, 12, and 13, 2016
- January 4, 5, 9, 11, 12, and 17, 2017
- February 1, 2, 10, 13, 15, 20, 21, and 28, 2017
- March 13, 14, 15, 16, and 17, 2017
- April 27, 2017

No breaches of cover integrity (e.g., cover cracks or exposed garbage) were found during the reporting period.

2.5 LESS THAN CONTINUOUS OPERATION (BAAQMD 8-34-501.5)

The RLI does not operate under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) and therefore is not required to submit monthly LFG flow rates.

2.6 SURFACE EMISSIONS MONITORING [BAAQMD 8-34-501.6, 8-34-506, & §60.757(f)(5)]

Quarterly Surface Emissions Monitoring (SEM), pursuant to BAAQMD Regulation 8-34-506, was conducted during the reporting period. A flame ionization detector (FID) was used during the SEM events to monitor the path along the landfill surface according to the Landfill SEM Map. Any areas suspected of having emission problems by visible observations also were monitored. Immediately prior to both monitoring events, the FID was zeroed and calibrated using zero air and a 500-ppmv methane calibration gas.

The Fourth Quarter 2016 SEM event was conducted by Roberts Environmental Services (RES) personnel on November 9, 2016. Twenty-one exceedances were identified. Corrective action and re-monitoring are described below:

- 5-day corrective action was completed on November 10, 2016.

- 10-day re-monitoring was completed on November 17, 2016 with all locations cleared.
- 1-month remonitoring was completed on December 8, 2016. All locations cleared.

The First Quarter 2017 SEM was conducted by RES on March 8, 2017. Thirty-one exceedances were identified. Corrective action and re-monitoring are described below:

- 5-day corrective action was completed on March 10, 2017.
- 10-day re-monitoring was completed on March 14, 15, and 17, 2017. All locations cleared.
- 1-month remonitoring was completed March 30, 2017. All locations cleared.

SEM Reports are included in Appendix H.

2.7 COMPONENT LEAK TESTING [BAAQMD 8-34-501.6, 8-34-503]

Quarterly component leak testing, pursuant to BAAQMD Regulation 8-34-503, occurred during the reporting period on the following dates:

Fourth Quarter 2016 – November 9, 2016
First Quarter 2017 – March 8, 2017

No exceedances were identified during either monitoring event. The Component Leak Testing results are included with the SEM reports in Appendix H.

2.8 SOLID WASTE PLACEMENT RECORDS (BAAQMD 8-34-501.7)

The solid waste placement total was calculated for the period of November 1, 2016 to April 30, 2017. The current waste in place figure includes solid waste placed in the landfill through the end of the reporting period. Table 2-5 summarizes the RLI solid waste placement records for the reporting period.

Table 2-5 Solid Waste Placement

Waste Placement (November 1, 2016 to April 30, 2017)	104,306 tons
Current Waste In Place as of May 1, 2017	13.49 million tons

2.9 NON-DEGRADABLE WASTE ACCEPTANCE RECORDS (BAAQMD 8-34-501.8)

RLI does not have non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.10 WELLHEAD MONITORING DATA (BAAQMD 8-34-501.4 & 8-34-505)

Wellhead monitoring was performed monthly pursuant to BAAQMD Regulation 8-34-505. The well data for November 1, 2016 to April 30, 2017 are included in Appendix I. Each well was monitored in accordance with the following requirements:

- 8-34-305.1 – Each wellhead shall operate under a vacuum.
- 8-34-305.2 – The LFG temperature in each wellhead shall be less than 55 degrees Celsius (131 °F).
- 8-34-305.4 – The oxygen concentration in each wellhead shall be less than 5 percent by volume.

The wellhead monitoring was performed on the following dates:

- November 1, 2, 3, 4, 7, and 16, 2016
- December 2, 5, 6, 7, 12, and 13, 2016
- January 4, 5, 9, 11, 12, and 17, 2017
- February 1, 2, 10, 13, 15, 20, 21, and 28, 2017
- March 13, 14, 15, 16, and 17, 2017
- April 2, 6, 13, 19, 20, 21, 25, 26, and 27, 2017

WELLHEAD DEVIATIONS [BAAQMD 8-34-501.9 & §60.757(f)(1)]

A total of 11 deviations from the wellhead standards in 8-34-305 occurred during the reporting period. All but one exceedances were corrected prior to issuance of this report.

The Wellfield Deviation Log is included in Appendix J.

2.11 GAS FLOW MONITORING RESULTS [BAAQMD 8-34-501.10, 8-34-508 & §60.757(f)(1)]

The LFG flow rates from both the A-51 and A-60 flares are measured with Veris flow meters. The flare flow meters meet the requirements of BAAQMD Regulation 8-34-508 by recording fuel flow at least every 15 minutes. The landfill gas engine plant (S-64 and S-65 engines) is in the start-up/commissioning phase and the engine flow meters have not been verified as of the end of the reporting period.

Appendix K contains a summary of the daily and monthly LFG flow rates and heat input for the flares and engine plant. These flow rates are summarized in Table 2-6:

Table 2-6 Total LFG Flow

Emission Control Device	Total Runtime (hours)	Average Flow Rate (scfm)	Average Methane (%) ¹	Total LFG Flow (scf)	12-Month Total LFG Flow (scf) Corrected to 500 BTU/scf	Max Daily Flow (scf) Corrected to 500 BTU/scf
A-51	3,785	1,689	50.2	383,548,139	837,436,478	3,712,293
A-60	3,680	1,149	51.4	253,639,893	424,925,314	3,639,695
S-64	39	549	50.3	1,286,815	1,310,070	406,861
S-65	42	498	50.4	1,241,329	1,266,918	587,906
Total	4,300	2,479	50.6	639,716,176	1,264,938,781	--

¹Methane content was determined from the February 18, 2016 and February 8, 2017 Source Tests. Heating value of methane used in heat input calculations is 1,013 BTU/scf

scfm = standard cubic feet per minute

scf = standard cubic feet

MMBTU = million British thermal units

Pursuant to Title V Condition Number 19867, Part 20, the total LFG throughput to the either flare did not exceed 4,320,000 scf during any one day. The A-51 and A-60 Flares combined total LFG throughput did not exceed 2,207,520,000 scf during any consecutive 12-month period.

Appendix K contains a summary of the combined daily LFG flow rates for the A-51 and A-60 Flares and the consecutive 12-month summaries.

There were no periods of missing data or chart recorder non-operation for the A-51 or A-60 Flares during the reporting period. The landfill gas engine plant (S-64 and S-65 engines) is in the start-up/commissioning phase and the data reported have not been verified as of the end of the reporting period. The Flare Missing Data Report Forms are included in Appendix F.

2.12 COMPLIANCE WITH §60.757(f)(6)

"The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755."

Routine GCCS maintenance occurred during the reporting period. The Wellfield SSM Log is included in Appendix D, Wellfield SSM Log.

Zero wells were added to and seven wells were removed from the collection system during the reporting period (November 1, 2016 to April 30, 2017).

As of the end of this reporting period, 91 total collectors (78 vertical wells and 13 horizontal collectors) were in service at RLI. A map of the LFG collection system showing the positioning of all vertical wells, horizontal collectors, and other LFG extraction devices is included in Appendix A.

2.13 COMPLIANCE WITH TITLE V PERMIT CONDITION 13123 (S-34 & S-39)

The S-34 Compost Facility Operations and S-39 Screening Operations were utilized during the reporting period. The total amount of material processed did not exceed 160,368 tons during any consecutive 12-month period during the reporting period of November 1, 2016 to April 30, 2017. Monthly and 12-month rolling throughputs are summarized in Table 2-7.

Table 2-7 Composting and Screening Operations Throughput

Month	Total Throughput (tons)	Rolling 12-Month Throughput (tons)
November 2016	12,182	120,320
December 2016	11,021	121,180
January 2017	11,905	125,642
February 2017	10,631	127,929
March 2017	12,978	130,483
April 2017	12,193	131,719

Pursuant to Title V Permit Condition Number 13123 Part 7, all yard waste material was processed within 72 hours of receipt. In addition, pursuant to Title V Permit Condition Number 13123 Part 8, the plant received no public nuisance notices of violation during the reporting period of November 1, 2016 to April 30, 2017.

2.14 COMPLIANCE WITH TITLE V PERMIT CONDITIONS 14098 AND 16516 (S-55)

Pursuant to Title V Permit Condition Number 14098, the annual gasoline throughput for the S-55 Non-Retail Gasoline Dispensing Facility Number 8573 did not exceed 940,000 gallons in any consecutive 12-month period during the timeframe of this report. Monthly gasoline throughput totals for the reporting period are listed in Table 2-8:

Table 2-8 Unleaded Gasoline Throughput

Month	Total Throughput (gallons)	Rolling 12-Month Fuel Usage (gallons)
November 2016	202	2,661
December 2016	134	2,654
January 2017	183	2,671
February 2017	311	2,876
March 2017	50	2,721
April 2017	99	2,654

Pursuant to Title V Permit Condition Number 16516, the Static Pressure Performance Test (Leak Test) for S-55 was performed on April 11, 2017. S-55 also passed the 2016 Leak Test. The Static Pressure Performance Test results are included in Appendix O.

2.15 COMPLIANCE WITH TITLE V PERMIT CONDITIONS 22820 (S-49)

The permit for S-49 was surrendered to BAAQMD on November 4, 2013. The equipment is no longer on site.

2.16 COMPLIANCE WITH TITLE V PERMIT CONDITION 19865 (S-41)

Pursuant to Title V Permit Condition 19865, the total of waste processed at the S-41 Yard and Green Waste Shredding Operation did not exceed 820 tons per day or 200,000 tons per year. Table 2-9 summarizes the amount of waste processed at S-41 during the reporting period:

Table 2-9 Waste Processed at S-41

Month	Total Throughput (tons)	Rolling 12-Month Throughput (tons)
November 2016	12,182	120,320
December 2016	11,021	121,180
January 2017	11,905	125,642
February 2017	10,631	127,929
March 2017	12,978	130,483
April 2017	12,193	131,719

2.17 COMPLIANCE WITH TITLE V PERMIT CONDITION 19866 (S-42)

The total amount of material received at the S-42 Soil and Cover Stockpiles did not exceed 1,160 tons per day and 105,500 tons per year.

2.18 COMPLIANCE WITH TITLE V PERMIT CONDITION 19867, PARTS 6-10

The following is a summary of vehicle activity at the RLI:

- The mean vehicle fleet weight for all off-site vehicles traveling on paved roads was 15.03 tons, which is below the permit limit of 15.31 tons.
- Mean vehicle fleet weight for all off-site vehicles traveling on gravel or dirt roads was 16.62 tons, which is below the permit limit of 16.63 tons.
- The mean vehicle fleet weight for all on-site landfilling and construction related vehicles was 9.9 tons, which is below the permit limit of 28.37 tons.
- During the reporting period, the vehicle miles travelled (VMT) per day on gravel roads did not exceed the permit limit of 280 VMT per day. 2016-2017 partial calendar year VMT on gravel roads was 20,074 VMT, below the limit of 87,080 VMT.

- During the reporting period, the VMT per day on dirt roads did not exceed the permit limit of 639 VMT per day. 2016-2017 partial calendar year VMT on dirt roads was 53,531 VMT, below the limit of 198,650 VMT.
- During the reporting period, the VMT per day on paved roads did not exceed the permit limit of 622 VMT per day. 2016-2017 partial calendar year VMT on paved roads was 33,457 VMT, below the limit of 205,880 VMT.
- During the reporting period, the VMT per day on dirt roads for the on-site vehicle fleet did not exceed the permit limit of 61 VMT per day. 2016 calendar year VMT on dirt roads is 15,742 VMT, below the limit of 19,080 VMT.

The records for VMT and average vehicle fleet weights are available for review at RLI.

2.19 COMPLIANCE WITH TITLE V PERMIT CONDITION 19867, PARTS 14 AND 15

No contaminated soil containing volatile organic compound (VOC) concentrations greater than 50 parts per million (ppm) was received during this reporting period. The total VOC emission rate for the reporting period (November 1, 2016 to April 30, 2017) is 0.00 lbs. The VOC soil log is included in Appendix L.

2.20 COMPLIANCE WITH TITLE V PERMIT CONDITION 19867, PARTS 31 AND 33

WEEKLY H₂S MONITORING

Pursuant to Title V Permit Condition Number 19867, Part 31b, weekly hydrogen sulfide (H₂S) readings were taken using Draeger tubes. This sampling frequency was increased to twice weekly starting November 22, 2016 per the Compliance Agreement between RLI and BAAQMD. This agreement is in effect and all terms of the agreement have been complied with, therefore any exceedances of 450 ppmv are not considered permit deviations.

The twice weekly H₂S readings and quarterly averages are summarized in Appendix M, H₂S Twice Weekly and Quarterly Monitoring.

QUARTERLY H₂S CHARACTERIZATION

Pursuant to Title V Permit Condition Number 19867, Part 31a, RLI collected the quarterly characterization of the LFG for analysis of sulfur compounds. The results are included in Tables 2-10 and Appendix M. As previously discussed, RLI has obtained a Compliance Agreement with BAAQMD covering the concentration limits of H₂S in the landfill gas. This agreement is in effect and all terms of the agreement have been complied with, therefore any exceedances of 450 ppmv are not considered permit deviations.

Table 2-10 LFG Characterization Results

Compound	Fourth Quarter 2016 Result (ppmv)	First Quarter 2017 Result (ppmv)	Permit Limits (ppmv)
Hydrogen Sulfide	662	1,633	N/A
Carbonyl Sulfide	ND	ND	N/A
Methyl Mercaptan	0.841	1.92	N/A
Ethyl Mercaptan	0.243	0.391	N/A
Dimethyl Sulfide	0.285	0.515	N/A
Carbon Disulfide	0.100	ND	N/A
Total Reduced Sulfur	668	1,646	450

ND = not detected
N/A = not applicable

ROLLING 4-QUARTER TRS LIMIT

The rolling 4-quarter average TRS concentration was calculated at the end of each quarter using data collected from twice weekly tube samples and quarterly analytical samples per Condition 19867, Part 31b. Results are shown in Table 2-11. As shown in the table, at the end of all the Quarters, the calculated TRS concentration was in excess of the 350 ppmv limit. The Compliance Agreement also covers this limit. Follow-up actions are discussed later in this section.

Table 2-11 Rolling 4-Quarter TRS Concentration

Quarter	Calculated TRS (ppmv)	Rolling Quarterly Average Annual TRS (ppmv)
2016 Q2	458.2	345.4
2016 Q3	345.8	387.8
2016 Q4	381.2	383.8
2017 Q1	570.1	438.8

ANNUAL LFG CHARACTERIZATION

LFG characterization sampling was conducted concurrently with the A-60 annual source test as required by Title V Permit Condition Number 19867, Part 31 on February 8, 2017. The LFG sample was collected from the main LFG header and analyzed for the organic and sulfur compounds listed in Part 31. The results were included in the Annual Source Test report submitted on April 4, 2017.

Results for Toxic Air Contaminants (TACs) are presented in Table 2-12 and indicate that the LFG collected by S-5 did not exceed the limits listed in Title V Permit Condition 19867, Part 18.b.

Table 2-12 Annual LFG Characterization: Toxic Air Contaminants

Compound	Result (ppbv)	Concentration Limit* (ppbv)
Acrylonitrile	<SRL	300
Benzene	553	1,500
Benzyl Chloride	<SRL	500
Carbon Tetrachloride	<SRL	200
Chlorobenzene	87	200
Chloroethane	141	500
Chloroform	<SRL	200
1,4-Dichlorobenzene	297	1,000
Ethylbenzene	2620	4,000
Ethylene Dibromide	<SRL	200
Ethylene Dichloride	219	200
Ethylidene Dichloride	<SRL	500
Hexane	553	2,000
Isopropyl Alcohol	2290	10,000
Methyl Alcohol	2390	300,000
Methyl Ethyl Ketone	5180	15,000
Methylene Chloride	<SRL	1,000
Methyl tert-Butyl Ether	<SRL	500
Perchloroethylene	103	1,000
Styrene	170	500
1,1,2,2-Tetrachloroethane	<SRL	200
Toluene	4610	20,000
1,1,1-Trichloroethane	<SRL	200
Trichloroethylene	85	500
Vinyl Chloride	163	2,000
Vinylidene Chloride	<SRL	500
Xylenes	5270	20,000

ppbv = parts per billion by volume

<SRL = less than the sample reporting limit

As reported in the November 2016 Semi-Annual Report, the 2016 Annual LFG Characterization showed concentrations of 1,4-dichlorobenzene and ethylbenzene above the limits listed in the permit. RLI submitted a 10-day deviation letter to BAAQMD on April 8, 2016 and a 30-day follow-up letter on April 29, 2016. Concentrations of these species were also covered by the Compliance Agreement. Per the agreement RLI will sample for these species on a quarterly basis. Samples were collected in December 2016 and February 2017. Results from this sampling are presented below.

Table 2-13 Toxic Air Contaminants Sampling

Species	Date Collected	Result	Limit	Units
Ethylbenzene	12/1/2017	1,630	4,000	ppbv
1,4-Dichlorobenzene	12/1/2017	ND	1,000	ppbv
Ethylbenzene	2/8/2017	2,250	4,000	ppbv
Ethylbenzene	2/8/2017	2,620	4,000	ppbv
1,4-Dichlorobenzene	2/8/2017	171	1,000	ppbv
1,4-Dichlorobenzene	2/8/2017	297	1,000	ppbv

GROUND LEVEL H₂S MONITORING

RLI began conducting fenceline monitoring for ground level H₂S concentrations in accordance with the May 2011 Proposed Hydrogen Sulfide Monitoring Plan in November 2016. Monitoring was conducted on the following days:

- November 21, 2016
- December 19, 2016
- January 11, 2017
- February 13, 2017
- March 9, 2017
- April 13, 2017

There were no H₂S concentrations observed above 30 ppb averaged over 60 minutes or 60 ppb averaged over 3 minutes.

2.21 COMPLIANCE WITH TITLE V PERMIT CONDITION 22940 (S-56)

Conditions from the California Air Resources Board (CARB) Permit Number 117378 for the S-56 Portable Horizontal Grinder have been incorporated by reference into the RLI Title V Permit. Therefore, the compliance records for this equipment have been included in this Combined Report. Pursuant to BAAQMD Condition Number 22940, the emissions of particulate matter less than 10 microns in diameter (PM₁₀) did not exceed 10 tons per year. The maximum daily throughput for the portable horizontal grinder (S-56) did not exceed 820 tons per day or 200,000 tons per year. Monitoring is performed daily when operations are conducted, the recording of total throughput of all registered equipment units operating. Table 2-14 lists the PM₁₀ emissions and total throughput of waste processed at S-56 for the reporting period:

Table 2-14 Waste Processed at S-56

Month	PM ₁₀ Emissions (tons)	Estimated Total Throughput (tons)
November 2016	0.00	55
December 2016	0.00	0
January 2017	0.03	550
February 2017	0.00	0
March 2017	0.00	0
April 2017	0.00	0

2.22 COMPLIANCE WITH TITLE V PERMIT CONDITION 22941 (S-57)

Conditions from the California Air Resources Board (CARB) Permit Number 117376 for the S-57 Portable Diesel Engine have been incorporated by reference into the RLI Title V Permit. Therefore, the compliance records for this equipment have been included in this Combined Report. Pursuant to BAAQMD Condition Number 22941, the diesel fuel usage has not exceeded 72,295 gallons during any consecutive 12-month period. The Daily fuel and operating records are maintained and summarized on a monthly basis. Table 2-15 lists the monthly and rolling 12-month fuel usage for the S-57 Portable Diesel Engine for the reporting period:

Table 2-15 Fuel Usage at S-57

Month	Diesel Fuel Usage (gallons)	Rolling 12-Month Fuel Usage (gallons)
November 2016	0	4,884
December 2016	0	4,884
January 2017	74	4,785
February 2017	0	4,612
March 2017	0	4,019
April 2017	0	4,019

2.23 COMPLIANCE WITH TITLE V PERMIT CONDITION 23052 (S-58)

Pursuant to Permit Condition 23052 Part 1, the total leachate influent rate to the Aerated Leachate Pond (S-58), excluding non-contact storm runoff, did not exceed 39.42 million gallons during any consecutive 12-month period. Table 2-16 displays the leachate flow information for S-58.

Table 2-16 Leachate Flow Information for S-58

Month	Total Leachate Influent Rate to S-58 (gallons)	Total Rolling 12-Month Flow Rate to S-58 (millions of gallons)
November 2016	1,089,620	18,120,142
December 2016	1,484,200	17,835,572
January 2017	2,888,760	18,076,574
February 2017	3,192,840	18,914,500
March 2017	2,132,180	17,614,920
April 2017	3,956,660	19,978,780

As shown in Table 2-17, the average concentration of precursor organic compounds (POCs) in the leachate influent to S-58 did not exceed the limits specified by Title V Permit Condition Number 23052 Parts 2 and 3:

Table 2-17 POC Concentrations for S-58

Sample Date	Benzene (ppb)	1,4-Dichlorobenzene (ppb)	Vinyl Chloride (ppb)	Total POC Concentration (ppb)
June 3, 2016	4.4	6.95	ND<0.5	111.05
Limit	19	48	7	500

2.24 COMPLIANCE WITH TITLE V PERMIT CONDITION 24527 (S-61 AND S-62)

The S-61 Portable Diesel Engine for Waste Tipper and S-62 Portable Diesel Engine for Power Screens operated less than 4,992 hours combined during any 12-month period ending in the November 1, 2016 to April 30, 2017 reporting period. Table 2-18 displays runtime hours for S-61 and S-62 during the reporting period.

Table 2-18 S-61 and S-62 Portable Diesel Engines

Month	S-61 Total Runtime (Hours)	S-62 Total Runtime (Hours)	Combined Rolling 12-Month Total (Hours)
November 2016	26	0	294
December 2016	23	0	297
January 2017	19	0	297
February 2017	20	0	296
March 2017	21	0	296
April 2017	25	0	297

2.25 COMPLIANCE WITH TITLE V PERMIT CONDITION 25634

Permit Condition 25634 requires the calculation of monthly LFG Input to all LFG-Fired Combustion Equipment and calculation of monthly emissions of CO and SO₂. The calculations are summarized on a quarterly basis to show compliance with rolling 4-

quarter limits. These calculations are summarized below. Complete calculations are presented in Appendix P.

Table 2-19 Rolling 4-Quarter LFG Input and CO and SO₂ Emissions

Year	Quarter	Rolling 4-Quarter Totals		
		LFG Input (MMscf)	CO Emissions (tons)	SO ₂ Emissions (tons)
2016	2	1,186	11.20	36.48
2016	3	1,171	10.71	40.67
2016	4	1,181	10.24	40.60
2017	1	1,203	10.21	47.47
Limits		2,625	237.5	99